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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,218	10/03/2003	Sien Chi	003-03-029	3277

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APEX JURIS, PLLC  
13194 EDGEWATER LANE NORTHEAST  
SEATTLE, WA 98125

EXAMINER

PENG, CHARLIE YU

ART UNIT PAPER NUMBER

2883

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Application No.

10/679,218

Applicant(s)

CHI ET AL.

Examiner

Charlie Peng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings Fig 1 is objected to because part 11 is labeled as “optical circulator” while the specification identifies part 11 as an “optical isolator”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 6 is objected to because of the following informalities:

The phrase "a frequency of 1540 nm" has a typographic error as frequency cannot have a unit of distance. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, and 7 are rejected under 35 U.S.C. 102(e) as being unpatentable over U.S. PGPub 2004/0012843 to Aozasa et al. in view of U.S. Patent 6,865,017 to Chen. Aozasa teaches an optical amplifier with monitoring means for an input signal, which may be a signal light for WDM transmission. Aozasa teaches a first isolator **432**, a first pump light source **422** (e.g. semiconductor laser diode), and a first coupler **436** that couples the WDM signal and the first pump light source into an amplification medium **410**, which can be a rare-earth doped optical fiber (e.g. erbium). (See at least **Fig. 6** and its detailed description) Aozasa further teaches a second pump light source **424**, which, combined with control unit **420**, controls a gain profile of the input signal and holds it constant, which is fully equivalent to a saturated tone light as disclosed by the applicant. Aozasa still further teaches a second optical splitter **416** coupled with the amplification medium **410**, and the optical splitter may contain at least a circulator (combined with fiber gratings). Aozasa does not specifically teach scanning of the gain

profile. The applicant does not particularly point out what the action of "scanning" entails. Since the gain profile is being monitored at least in part through the rare-earth doped fiber, it obviously could be scanned as well in order to sample the gain profile periodically. This analogy is similar to, for example, a police scanner.

Aozasa still further teaches a third splitter **428** that output two signals, one of which is an output signal of the optical amplifier. Aozasa does not directly specify the output signal to be with a specified frequency. Chen teaches a similar optical amplifier where two components split from two output ports of WDM **210** are a first component at 980nm reflecting a pump residual signal and a second component at 1550nm reflecting an amplified output signal and a noise component. The first component is then coupled to a photo detector **226**, which can be a photodiode used to measure the pump residual power. (See at least **Column 5, paragraph 4**) It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Chen's invention as part of the monitoring unit, as one would be motivated to use the power measurement as part of the feedback control for the pump light source.

#### ***Allowable Subject Matter***

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Aozasa and Chen teach the optical apparatus having the pump laser, the WDM coupler, the amplification fiber, the light sources, and the optical circulator but not a DFB laser as the controlling light source. Although DFB laser

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is a common light source, the examiner finds no obvious motivation to combine the invention as suggested by Aozasa and Chen with a DFB laser having a particular wavelength of 1540nm and a particular power of 15 dBm. It is thus the examiner's opinion that the prior art of record, taken alone or in combination, fails to disclose or render obvious in combination with the rest of the limitations of the base claim.

### ***Conclusion***

The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is encouraged to review the prior art before responding to the office with an amendment and/or remarks.

U.S. Patent 6,611,370 to Namiki et al., on a Raman amplifier system;

U.S. Patent 6,640,027 to Kim et al. and its family, on an optical filter;

U.S. Patent 6,310,716 to Evans et al., on an amplifier system;


U.S. Patent 5,923,462 to van der Plaats, on a gain control system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 8:30 am - 5 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charlie Peng  
Charlie.Peng@uspto.gov



Brian Healy  
Primary Examiner